Congress of the United States Washington, DC 20515

October 22, 2021

The Honorable Gina Raimondo Secretary Department of Commerce 1401 Constitution Avenue, NW Washington, D.C. 20230

Dear Secretary Raimondo,

We write to request your immediate action on several urgent shortcomings in U.S. export control policy for the People's Republic of China (PRC). Because these actions are critical to stemming the flow of technology into our foremost foreign adversary, we request the Department of Commerce respond sufficiently to these recommendations before an Under Secretary for the Bureau of Industry and Security (BIS) is confirmed.

Reports that the PRC has tested a nuclear-capable hypersonic missile is a chilling display of Chinese Communist Party (CCP) capabilities and intentions. To make matters worse, it is likely that U.S. software and tools contributed to the creation of this weapons system, because of our country's permissive export controls and licensing policies with China. If this is not the clarion call to overhaul export controls and our technology and research collaboration with the PRC and its Military-Civil Fusion strategy, liberal democracies may cede more ground to a genocidal, authoritarian regime.

U.S. export control authorities can help significantly constrain the CCP's human rights abuses, surveillance state, and military modernization when used effectively. For instance, unilateral controls and the Foreign-produced Direct Product Rule (FDPR) have been vital in hobbling Huawei's ability to give the CCP control over global 5G networks. The next BIS Under Secretary must rigorously implement export controls to curb the CCP's development of weapons systems—such as hypersonics—that are aimed at the United States and our allies' forces in the Indo Pacific and around the world.

Congress has raised concerns with the implementation of U.S. export control policy toward the PRC, including failing to sufficiently define emerging and foundational technologies and not

¹ https://www.wsj.com/articles/u-s-set-out-to-hobble-chinas-huawei-and-so-it-has-11633617478

designating on the Entity List companies such as Honor and YMTC that change their name or ownership structure to evade sanctions or threaten to destroy the market for memory semiconductor chips. We respectfully and urgently request you commit to working with Congress on ten recommendations of immediate concern:

- 1. Use the FDPR on all entities that enable the CCP's military capabilities and human rights abuses.²
- 2. Update the licensing policy for SMIC and expand its application to all PRC semiconductor foundries and fabrication facilities (fabs).³
- 3. Restrict access to argon fluoride (ArF) immersion photolithography, extreme ultraviolet photolithography, advanced materials (photomasks and photoresists), and software necessary for any advanced foundry or fab in the PRC.⁴
- 4. Restrict designs and photomasks for critical semiconductors that are developed using U.S. electronic design automation (EDA) software from being fabricated at PRC fabs.⁵
- 5. Deny licenses that support the Comac C929, which is the PRC's long-range wide-body airliner, and leverage the *Annex on Cooperation on Non-Market Economies* in the recent U.S.-EU agreement to coordinate technology transfer policies.⁶
- 6. Coordinate with Congress to issue final rules on appropriate controls for fundamental research and open-source technology platforms.⁷

² The FDPR was extremely effective in cutting Huawei off from U.S. technology, without significantly affecting the profitability of U.S. supplier companies and the overall health of the U.S. economy. Despite this clear example to follow, entity listings for other PRC companies have been described as "toothless" because workarounds are used too easily. For instance, companies can design advanced chips on U.S. open-source technology platforms and produce them unrestricted at foundries in Taiwan that use U.S. tools.

³ By limiting the presumption of denial only to those items that are "uniquely" required to produce semiconductors at 10 nanometers and below, the Department of Commerce seems to be allowing SMIC access to nearly all semiconductor manufacturing equipment. Based on public commentary, nearly 95 percent of the tools SMIC needs to make advanced semiconductor chips at or below 10 nanometers can be reused from older generations. In effect, SMIC will not face serious restrictions, because very few tools are "uniquely capable" of producing a certain chip size.

⁴ The PRC is gaining ground on manufacturing advanced semiconductors through access to these goods and technologies. Moreover, all these items have been characterized by CSET as "chokepoints" in the PRC's chip supply chain because these items are only available from the United States and its allies. This action, according to CSET, would help ensure the PRC's dependence on imports for advanced chips.

⁵ U.S. companies have a near monopoly on EDA tools, representing a clear chokepoint with no foreign availability. This action would deprive PRC fabs of customers, shifting semiconductor production to other countries—mainly democracies. As a result, the CCP's ambition to displace U.S. companies in a strategic industry would be curtailed. ⁶ PRC industrial plans aim to build a single aisle aircraft that is indigenous and advances the PRC's capabilities through required joint ventures of U.S. aerospace firms and PRC state-owned national champions. The PRC's ambitions in this industry rely on access to foreign technology, however.

⁷ The Congressional Research Service finds that open-source technology platforms, including RISC-V, the Open Compute Project, and the O-RAN Alliance, may be rapidly developing in a direction that could be used to exploit gray areas or gaps in U.S. export controls and are experiencing growing participation by PRC entities, including those firms that are under U.S. sanctions. Moreover, U.S. export control policy for fundamental research is based on

- 7. Submit quarterly reporting to Congress on export control licensing outcomes to parties on the Entity List, Military End-User List, and the Chinese Military Companies List, as well as license outcomes for controlled items to the PRC.⁸
- 8. Update the Export Administration Regulation Country Chart to better address the unique and evolving risks of technology trade with the PRC.⁹
- 9. Set up a mechanism, with appropriate safeguards, to share BIS licensing information seamlessly and voluntarily with members of and observers on CFIUS as well as the intelligence community.¹⁰
- 10. Create more transparency on the process for identifying emerging and foundational technologies and commit to time-bound metrics for identifying technology.¹¹

This hypersonics test and other wakeup calls must end the notion that the CCP can be constrained through commercial engagement. Rather, BIS should act with agility and strength to carry out the ten recommendations in this letter immediately. We hope any Under Secretary would commit to these commonsense proposals that would significantly advance BIS' national security mission. As this administration's Central Intelligence Agency Director states there are "a growing number of areas in which [General Secretary] Xi's China is a formidable, authoritarian adversary," The United States must take a "whole-of-government" approach, which includes Congress, to address this issue.

an outdated national security directive that does not address the unique risk of technology transfer to the PRC.

8 The Department of Commerce does not regularly or voluntarily share discrete licensing decisions for companies on the Entity List, Military End User List, or Chinese Military Company List. This lack of transparency to the public and Congress constrains basic oversight functions.

⁹ CRS finds that although most items on the Commerce Control List require a license for export to the PRC, in practice, BIS has until recently waived license requirements for national security-controlled items destined for civilian end-use in sectors including aerospace, microelectronics, and semiconductors. As a result, only 0.5 percent of U.S. trade with the PRC results in a BIS-issued license, despite PRC laws and regulations that require companies support the CCP military and surveillance efforts. To better protect U.S. national security and foreign policy interests the U.S. government must more heavily scrutinize licensing decisions for the PRC.

¹⁰ Despite calls for a "whole-of-government" approach to address threats from the PRC, it appears executive branch agencies, such as BIS, are stove piping vital information. For instance, it appears BIS has no obligation to share licensing information with CFIUS even though it would give analysts and case officers a more complete picture of PRC efforts to acquire U.S. technology. These types of joint sharing of information were explicitly required in Section 4(c) of Export Administration Act of 1979, which mandated the Secretary of Commerce and Secretary of Defense to establish a jointly operated computer system to assess foreign availability. It is unclear if that system was ever established.

¹¹ Since the Export Control Reform Act of 2018, there has been a significant delay in forming this list along with a lack of clarity on the process and methodology. The U.S.-China Economic and Security Review Commission wrote in a June report that the Department of Commerce has "failed" to carry out this responsibility.

Sincerely,

Michael T. McCaul

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